

48

POWER AMPLIFIER TETRODE

Heater	Coated Unipotential Cathode	
Voltage	30	d-c volts
Current	0.4	amp.
Maximum Overall Length		5-3/8"
Maximum Diameter		2-1/16"
Bulb		ST-16
Base		Medium 6-Pin
Pin 1 - Heater		Pin 4 - Grid
Pin 2 - Plate		Pin 5 - Cathode
Pin 3 - Screen		Pin 6 - Heater
Mounting Position	BOTTOM VIEW	Vertical, Base Down◊ ←

SINGLE-TUBE AMPLIFIER - Class A_1

Operating Conditions and Characteristics:

	Tetrode Connection		Triode Connection**		
Heater □	30	30	30	30	volts
Plate	96	125 max.	80	125 max.	volts
Screen	96	100 max.	**	**	volts
Grid †	-19	-20*	-20	-32.5	volts
Cathode Resistor	310	310	650	625	ohms
Amp. Fact.	Subject to		2.5	2.5	
Plate Res.	considerable variation		760	675	ohms
Transcond.	3800	3900	3300	3700	µmhos
Plate Cur.	52	56	31	52	ma.
Screen Cur.	9	9.5	-	-	ma.
Load Res.	1500	1500	-	-	ohms
Power Output ○	2	2.5	-	-	watts

○ 9% total harmonic distortion.

† The d-c resistance in the grid circuit should not exceed 10000 ohms.

** Screen tied to plate. Operation of the 48 as a *single* triode is recommended only in applications where a large plate-current change for a small grid-voltage change is essential, and where distortion is not a factor. Under such conditions, the recommended maximum plate dissipation is 8 watts.

PUSH-PULL AMPLIFIER - Class A_1

Unless otherwise specified, values are for 2 tubes

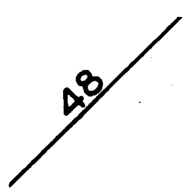
Operating Conditions:	As Tetrodes	As Triodes**	
Heater □	30	30	volts
Plate	125 max.	125 max.	volts
Screen	100 max.	**	volts
Grid	-20*	-32.5*	volts
Cathode Resistor	155	325	ohms
Zero-Sig. Plate Cur.	100	100	ma.
Load Res. (plate to plate)	3000	1250	ohms
Total Harmonic Distortion	9	2	%
Power Output	5	3	watts

* Bias from auxiliary C-battery.

□ In circuits where the cathode is not directly connected to the heater the potential difference between heater and cathode should be limited to 90 volts.

◊ Horizontal operation permitted if pins No.2 and No.5 are in vertical plane.

← Indicates a change.





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CHARACTERISTICS CURVES

AVERAGE PLATE CHARACTERISTICS

TYPE 48
E_f = 30 VOLTS
SCREEN VOLTS = 96

CONTROL-GRID VOLTS E_{C1} = 0, -5, -10, -15, -19, E_{C1} = -20, -25, -30, -35, -39, -40

LOAD RESISTANCE 1500 OHMS

PLATE MILLIAMPERES (0–160)

PLATE VOLTS (0–240)

92C-4228R1

AVERAGE PLATE CHARACTERISTICS
TRIODE CONNECTION

TYPE 48
E_f = 30 VOLTS
SCREEN TIED TO PLATE

GRID VOLTS E_c = 0, -5, -10, -15, E_c = -20, -25, -30, -35, -40

PLATE MILLIAMPERES (0–140)

PLATE VOLTS (0–140)

92C-5325R1

AVERAGE CHARACTERISTICS
TETRODE CONNECTION

TYPE 48
E_f = 30 VOLTS
PLATE VOLTS = 96
SCREEN VOLTS = 96

PLATE (I_b) OR SCREEN (I_{C2}) MILLIAMPERES (0–180)

TRANSCONDUCTANCE (g_m) MICROMHOS (1000–9000)

CONTROL-GRID VOLTS (0 to -60)

I_{C2}, I_b, g_m

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